

## STATUS OF THE TRANSPORTATION AND COMMUNICATIONS SECTOR

This section examines the progress of reconstruction in the transportation and communications (T&C) sector. Projects in this sector improve transportation systems in Iraq, such as ports, railways, roads, bridges, and airports. This sector also includes U.S.-funded telecommunications projects.<sup>84</sup>

These are the highlights of SIGIR's progress report on transportation and communications:

- More than 80% of projects have been completed in this sector, with 53% of the \$799 million allocated to this sector expended. Figure 2-12 shows sector funding as a portion of total IRRF 2 allocations.
- A series of IRRF-funded projects has restored Iraq's only operational deepwater port at Umm Qasr.
- U.S. projects have nearly completed repairs at most of Iraq's 107 railway stations, but the effects of these projects are not yet apparent. Only 4% of trains run each day, primarily because of security concerns.
- After the 2003 conflict, Iraq did not have any functioning airports; now there are two international and three regional airports.
- Almost 5.2 million more Iraqis now have access to mobile phone service than before the 2003 conflict, financed by the private

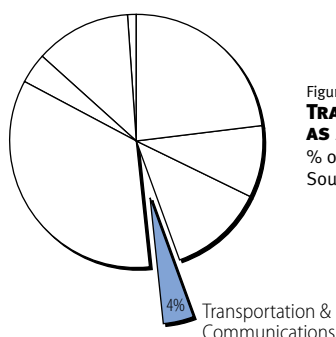


Figure 2-12  
**TRANSPORTATION AND COMMUNICATIONS  
 AS A SHARE OF IRRF FUNDS**  
 % of \$18.439 Billion  
 Source: DoS *Iraq Weekly Status* report, 03/29/06



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sector. The United States provided technical guidance to the Iraqi government in developing mobile licenses, and the CPA built a “first responder” network.

Figure 2-13 shows reconstruction activity in this sector by governorate.

### IRRF-funded Activities in the Transportation and Communications Sector

In this sector, 384 projects of 470 total projects have been completed. Projects in the T&C sector focus on five major areas:

- shipping
- railways
- air transportation
- roads and bridges
- telecommunications

Figure 2-14 shows the status of projects in the T&C sector.

Transportation infrastructure received heavy investment during the 1970s and 1980s, but much of it was destroyed during the first Gulf War, and years of neglect and sanctions slowed the rebuilding process.<sup>85</sup> In 2003, the UN and World Bank estimated that transportation and telecommunications in Iraq would require \$3.38 billion of investment in the immediate- and medium-term.<sup>86</sup> But CPA discovered later in 2003 that Iraq’s transportation and telecommunications infrastructure—would require significantly more investment.

The sector was originally allocated \$870

million in IRRF 2 funding<sup>87</sup> but currently has IRRF allocations of \$799 million. More than 90% of the sector’s funding has been obligated, and 53% has been expended. These are higher rates than all other U.S. reconstruction sectors except two: security and justice; and democracy, education, and private sector development. Figure 2-15 shows the status of funds in the T&C sector.

GRD-PCO estimates that construction will be completed in this sector by late 2008, when the last of the major highway projects executed through the Ministry of Construction and Housing are completed.<sup>88</sup>

PCO and USAID have executed most of the projects in the T&C sector. USAID infrastructure reconstruction contracts included the rehabilitation of airports and restoration of the deep water port at Umm Qasr.<sup>89</sup>

PCO projects in this sector were originally funded through an indefinite-delivery/indefinite-quantity (IDIQ) contract with a ceiling of \$325 million. This contract was terminated in October 2004, in part because of a shift from large design-build contracts to direct contracting with Iraqi firms.<sup>93</sup>

### SHIPPING

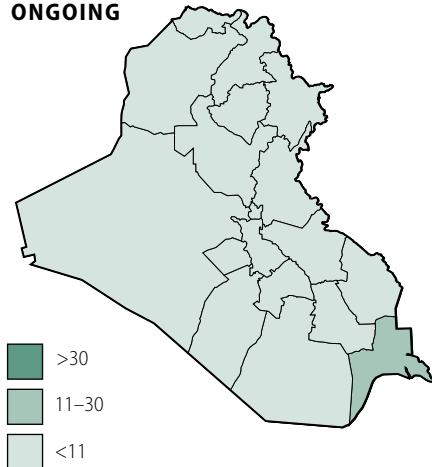
#### Key Shipping Projects Completed and Underway

Although there are six cargo ports in Iraq, Umm Qasr, on the Iraq border with Kuwait, is the only deepwater port.<sup>94</sup> A 2003 UN-World Bank assessment recommended that port reconstruction efforts focus on Umm Qasr because of the critical role the port would play



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## ONGOING



## COMPLETED

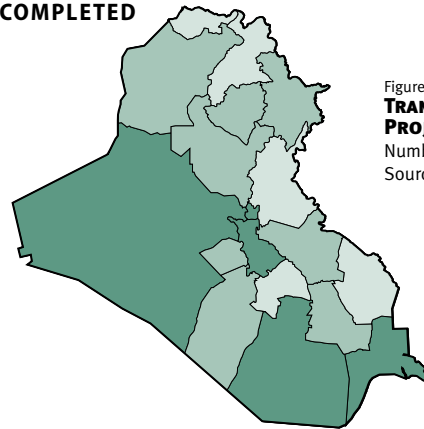


Figure 2-13  
**TRANSPORTATION AND COMMUNICATIONS  
PROJECTS BY GOVERNORATE**

Number of Projects

Source: IRMS—IRMO Rollup file, 03/31/06

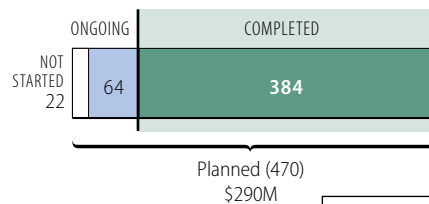
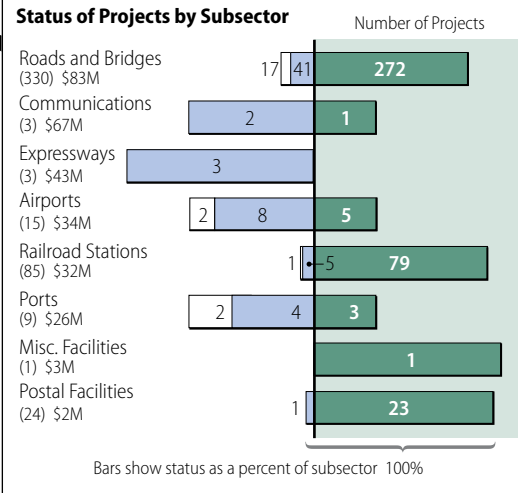
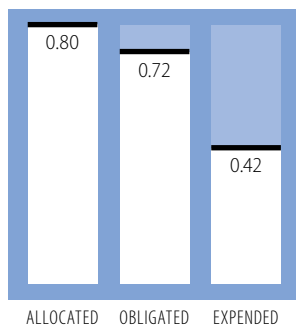


Figure 2-14  
**STATUS OF TRANSPORTATION AND  
COMMUNICATIONS PROJECTS**

Number of Projects

Source: IRMS—IRMO Rollup file, 03/31/06

Figure 2-15  
**STATUS OF TRANSPORTATION AND  
COMMUNICATIONS FUNDS**  
\$ Billions  
Source: DoS Iraq Weekly Status report, 03/29/06





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Port at Umm Qasr

in supplying the country.<sup>95</sup>

To ensure that the port could receive emergency supplies, the U.S. Army of Corps of Engineers (USACE) began work on it immediately following combat operations. By mid-June 2003, Umm Qasr was open for commercial shipping.<sup>97</sup> Since that time nearly \$42 million of IRRF 2 has been obligated for rehabilitation of the port, and much of the work is already completed.<sup>98</sup>

During this quarter, an operations building for the port was completed,<sup>99</sup> as well as \$4.8 million of security upgrades.<sup>100</sup> Also, a \$2.5 million project to buy various port vehicles—fire trucks, buses, and more—and fund operational training is nearly complete.<sup>101</sup> PCO has completed three of eight construction projects at the port and will finish the remainder by January 2007.<sup>102</sup>

### Outputs and Outcomes of IRRF-funded Shipping Projects

During the week ending March 25, 2006, 14 ships were berthed at Umm Qasr, and 18 ships continued to unload from the previous week. During the same week, 4,544 trucks were processed at the port.<sup>104</sup> U.S. projects have focused on repairs at Umm Qasr, and the increased activity at the port shows the value of these efforts. Figure 2-16 shows the number of new berths at Umm Qasr from December 21, 2005, to March 28, 2006.

## RAILWAYS

### Key Railway Projects Completed and Underway

Iraq has one of the most extensive railway networks in the region.<sup>105</sup> To support the repair of this network, projects in this subsector were originally budgeted at \$210 million, but \$21 million of that was reallocated. Current allocations total \$189 million.<sup>106</sup>

By the end of last year, GRD-PCO had rehabilitated 79 railway stations at a cost of \$1.5 million.<sup>106a</sup> During this reporting period, 89 stations were reported complete.<sup>107</sup> A SIGIR on-site inspection of station renovations in Basrah found poor quality work in several areas. For a summary of this inspection, see Section 3. During this reporting period, work was set to begin on a \$3.4 million renovation of the Baghdad Central Railway station and two equipment maintenance facilities, budgeted at \$10.4 million, were near completion at Baji and Samawa.<sup>108</sup>

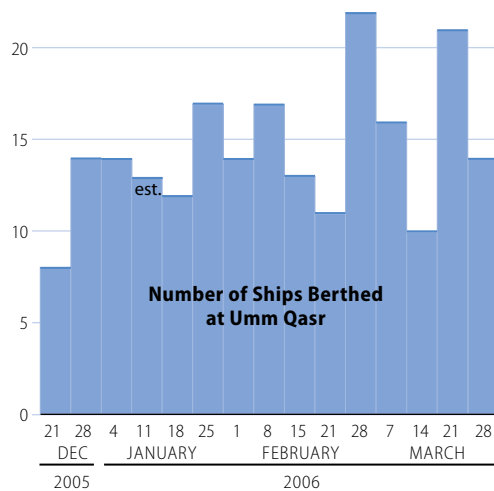


Figure 2-16

**NEW SHIP BERTHS AT UMM QASR**

Number of Berths

Source: IRMO *Weekly Status* reports, 12/28/05–3/28/06

GRD-PCO is spending \$125 million on non-construction railway projects. Much of this funding has been spent on track-maintenance machinery, spare parts, and tools and materials.<sup>109</sup> One of the largest projects, costing \$54 million, provides communications for a train-control system, which is essential to a viable, national railway system. The project is expected to be completed by early 2007,<sup>110</sup> but it faces a major challenge. Training on implementation and operation of the system is scheduled for July 2006 in the United States. However, obtaining travel permits from the Iraqi government for the trainees has been difficult. IRMO reported that this may cause this project to fail.<sup>111</sup>

**Outputs of IRRF-funded Railway Projects**

Iraq's 1,522 miles of rail lines and 107 rail stations were in poor condition at the end of the 2003 conflict.<sup>112</sup> IRRF 2 money has not been

used to repair track but instead has been used to purchase tools and machinery needed for Iraqi workers to accomplish the repairs.<sup>113</sup> U.S. projects have also helped bring the number of operational locomotives from 25 immediately after the war to 100 currently.<sup>114</sup> Although the majority of funding has been allocated to non-construction projects, GRD-PCO does plan to repair 106 out of 107 rail stations in Iraq.

**Outcomes of IRRF-funded Railway Projects**

Although there has been progress in refurbishing railway stations and locomotives, the security situation in Iraq has contributed to a gap between planned and actual train movements. Train activity has declined substantially from post-war levels because of attacks concentrated in a six-mile section in Latafiya, south of Baghdad. No trains have operated along the Baghdad-Basrah-Umm Qasr route since February 2006, and PCO trains have not operated since



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January 2006. Figure 2-17 shows weekly train traffic for 2006.

While the effects of U.S. projects have not been felt by many Iraqis, improvements in security have enabled the Iraqi Republic Railway (IRR) to operate two large trains daily along the Mosul-Rabiya line, importing food, consumer goods, and fuel from Syria and Turkey.<sup>115</sup>

### AIR TRANSPORTATION

#### Key Air Transportation Projects Completed and Underway

Iraq last conducted normal air transportation operations in 1989 when airlines carried about 1.2 million passengers to 42 destinations within Iraq and abroad. UN sanctions from 1990 to 2003 grounded most civil international air traffic, although there were still sporadic flights into Baghdad.<sup>116</sup> Airports in Iraq were not maintained during the sanction years and

suffered further damage during the 2003 conflict. A 2003 UN/World Bank study noted that the two international and three major domestic airports in Iraq were incapable of supporting commercial operations and that most of the electromechanical systems were useless.<sup>117</sup>

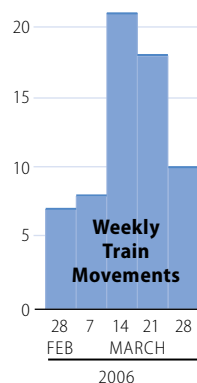
In May 2003, USAID began emergency work at Bagdad International Airport (BIAP) and Basrah International (BIA). U.S. projects have since restored commercial operations at two international airports—BIAP and BIA—and regional operations at Mosul, Kirkuk, and Irbil.<sup>119</sup> The program goal is to bring all of these airports up to the standards of the International Civil Aviation Organization. Work in Basrah will be complete in May 2006, and work in Baghdad and Mosul is estimated to be complete by August 2006.<sup>120</sup>

During the last reporting period, IRRF 2 allocations for civil aviation decreased by \$38 million, to \$76 million.<sup>121</sup> U.S. projects alone will not bring Iraqi airports to international standards; Iraqi efforts and funding will also be required.<sup>122</sup>

#### Outputs of IRRF-funded Air Transportation Projects

After the 2003 war, Coalition forces provided air traffic approach and control services.<sup>123</sup> BIAP was returned to Iraqi control in August 2004.<sup>124</sup> Since September 2004, Iraqi Airways has operated a single Boeing 737 airplane, recently adding a Boeing 767 and other aircraft via leases.<sup>125</sup> A recent SIGIR project assessment at the Mosul Airport found that U.S.

Figure 2-17  
**VOLUME OF RAIL TRAFFIC**  
Number of Train Trips  
Sources: IRMO *Weekly Status*  
Reports, 2/28/06–3/28/06



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projects there were of high quality and that sustainability has been adequately addressed. For a summary of this assessment, see Section 3 of this Report.

#### Outcomes of IRRF-funded Air Transportation Projects

During the week of March 20-26, 2006, there were 291 civil aviation operations at BIAP.<sup>127</sup> Figure 2-18 shows the number of daily commercial flights at BIAP from this past quarter.

#### ROADS AND BRIDGES

This section outlines the key U.S. projects to improve roads and bridges in Iraq. SIGIR does not report outcomes in the roads and bridges subsector.

#### Key Road and Bridge Projects Completed and Underway

In 2003, Iraq was estimated to have 25,230 miles of roads, and 85% of the roads were paved.<sup>128</sup> Although roads were not seriously damaged during the 2003 conflict,<sup>129</sup> only 50% of the expressways were then estimated in “good” condition, and only 20-30% of secondary and village roads were in “good” condition.<sup>130</sup> Insurgent attacks after the war further damaged the road infrastructure, especially to the main highway connecting Baghdad and Amman.<sup>131</sup>

PCO reports that five bridges will be rebuilt by January 2008, at a cost of \$21.2 million. Two major roadway projects are also in their initial stages. The 54-mile highway between Baghdad

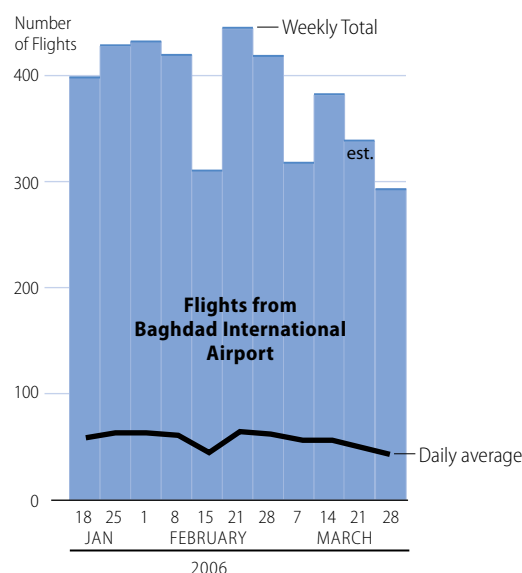


Figure 2-18  
**VOLUME OF FLIGHTS AT BAGHDAD  
INTERNATIONAL AIRPORT**  
Number of Flights  
Sources: IRMO *Weekly Status* reports,  
1/18/05–3/28/06

and Kirkuk will be upgraded to four lanes by December 2008, at a cost of \$27.9 million. The 43.4-mile highway between Diwaniyah and Semawa is also being upgraded to four lanes. It will be completed in January 2008, at a cost of \$15.5 million.<sup>134</sup>

Major U.S. programs are also underway to repair small roads. The Village Roads Program, a \$38 million effort overseen by GRD-PCO, will provide 263 miles of improved roads, of which more than 50% has been completed to date.<sup>135</sup>

A SIGIR assessment team reviewed a small section of village roads outside of Mosul and found that the project is on target. The team

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found problems with the design drawings of the project; but all other work was consistent with the contract. SIGIR also conducted two limited on-site inspections of road projects in Basrah and Thi-Qar. Summaries of these limited on-site inspections and the Mosul assessment—including aerial imagery of a road project in An Najaf—are in Section 3 of this Report.

Small roads are also receiving up to \$52 million through the Provincial Reconstruction Development Committees (PRDCs), which will allow provincial councils to prioritize the road projects in their respective provinces.<sup>136</sup> At the end of this reporting period, 59 projects, valued at \$49.5 million, had been approved. The projects are intended to meet key needs for Iraq's national highways, with scheduled completion in April 2007.<sup>137</sup>

#### **Outputs of IRRF-funded Road and Bridge Projects**

U.S.-funded projects have focused on only a small percentage of roads and bridges in Iraq. Table 2-4 compares the cumulative total of miles of road repaired and built, as well as the number of bridges repaired and built, against pre-war levels.

### **TELECOMMUNICATIONS**

#### **Key Telecommunications Projects**

##### **Completed and Underway**

Nearly \$20 million in IRRF was allocated to modernize the Iraqi Telephone and Post Company (ITPC). During this reporting period, 9 postal trucks and 26 vans were purchased and delivered for \$1.3 million.<sup>138</sup> PCO also plans

to construct or renovate 36 Iraqi post offices for \$2.83 million. To date, the projects are 41% complete; when finished, they will provide mail service for one million Iraqis.<sup>139</sup> The Iraqi telecommunications system was originally allocated \$90 million, but now has only \$48 million to initiate long-term upgrades and increase capacity and sustainment.<sup>140</sup>

An allocation of \$20 million was also made available to rebuild the Al Mainoun Telecommunications Center. This technology center will house major switching elements of the Iraqi Telephone Network, the national operations center, and international gateway equipment.<sup>141</sup>

The \$70 million Consolidated Fiber Network (CFN) is intended to rehabilitate and extend the existing ITPC fiber network. When complete, the CFN will allow the Ministry of Electricity to control the electrical system and communicate via the network. By the end of this reporting period, 82% of the cable was installed, and the project is scheduled to be completed in summer 2006.<sup>142</sup>

The National Communications and Media Commission (NCCMC) was originally allocated \$25 million, but now has only \$20 million. To date, the headquarters for NCCMC has been finished and equipped, and a training strategy plan is in progress.<sup>143</sup>

#### **Outputs of IRRF-funded**

##### **Telecommunications Projects**

The first Gulf War and the air strikes of 1998 severely damaged the telecommunications infrastructure. During the war, Coalition forces





## ROADS AND BRIDGES REPAIRED AND GOAL

OUTPUTS METRIC	PRE-WAR LEVEL (2003)	PLANNED REPAIRS/PAVING – GRD/PCO ONLY, AS OF MARCH 29, 2006
Miles of Road	25,230 21,450 paved  *Only 50% of expressways and 20-30% of secondary roads in "good condition"	Village roads: 263* City carriageways: 125 Major roads: 17 Total: 405 *Village Roads program originally planned for 445 miles
Number of Bridges	1,156 *In poor condition or completely destroyed	10 *5 funded by IRRF, 5 funded by DFI

Sources:  
Pre-war Level: Note, these figures are rough estimates. United Nations/World Bank, "Joint Iraq Needs Assessment," October 2003, p. 23.  
Miles of road repaired: GRD-PCO, "Response to SIGIR request dated February 25, 2006," March 29, 2006, p. 8.  
Number of bridges repaired: DoS Email to SIGIR, March 31, 2006.

Table 2-4

bombed many Iraqi telephone exchanges to disrupt communications within the country.<sup>144</sup> After combat operations in 2003, 12 of Baghdad's 38 switching stations were out of service, which made nearly 45% of all landlines inoperable. USAID repaired all 12 of these stations using IRRF 1 funds.<sup>145</sup> To date 35 of 42 ITPC sites have fiber connectivity through the CFN project,<sup>146</sup> with approximately 106 miles of fiber lines operational.<sup>147</sup>

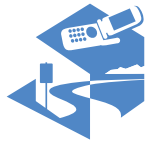
### Outcomes of IRRF-funded

#### Telecommunications Projects

Before the war, only the Kurdish governorates had a civilian mobile phone network, but now wireless technology is the most popular com-

munication method in Iraq. In late 2003, the Iraq Ministry of Telecommunications granted three, two-year licenses for Global System for Mobile Communications (GSM).<sup>148</sup> Although the U.S. Embassy provided technical guidance to the NCMC in awarding these licenses<sup>149</sup> and the CPA designed and built a "first responder" network for security forces,<sup>150</sup> most development in wireless communications has come through private investment. Table 2-5 compares the current number of telephone subscribers with the pre-war numbers.

Before the war, Internet access was expensive and carefully controlled, and only a few thousand users subscribed. After the war, the state-owned Internet service provider—State



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Company for Internet Services (SCIS)—began addressing the challenges of Iraq’s limited regulation, policy, and legal framework.<sup>151</sup>

Currently, there are about 213,000 SCIS Internet subscribers in Iraq; most Iraqis continue to gain access through cafes and hotels.<sup>152</sup> DoS estimates that there are 2,000 Internet cafes and Internet access points in Iraq.<sup>153</sup>

### CURRENT TELEPHONE SUBSCRIBERS VS. PRE-WAR LEVELS

OUTPUTS METRIC	PRE-WAR LEVEL (2003)	CURRENT STATUS AS OF 3/28/06
Landline subscribers	833,000	1,036,854
Mobile Phone subscribers	80,000	5,261,789

#### Sources:

Pre-war Levels: Economist Intelligence Unit, Country Profile 2005-Iraq, 2005, p. 34; International Telecommunication Union, World Telecommunication/ICT Indicators, No Date, p. A-30. Available online at [http://www.itu.int/ITU-D/ict/statistics/at\\_glance/cellular03.pdf](http://www.itu.int/ITU-D/ict/statistics/at_glance/cellular03.pdf).

Current Status: IRMO, Weekly Status report, March 28, 2006, p. 19.

Table 2-5